

Amendments to the Specification:

Please delete the previous title and add the following new title:

OPTICAL METHODS FOR TISSUE ANALYSIS

Please replace the paragraph beginning on page 7, at line 14, with the following paragraph:

The invention relates to using laser speckle to measure microscopic motion, including Brownian motion, of tissue in vivo to gather information about the tissue. In general, coherent or partially coherent light is reflected from a tissue to form a speckle pattern at a detector. Due to motion of reflectors within the tissue, the speckle pattern changes over time, or is "decorrelated." By monitoring the rate of decorrelation, while compensating for "extrinsic," macroscopic motion of the tissue, microscopic motion in the tissue can be isolated and measured. The partially coherent light can provide more information about optical properties of the tissue than completely coherent light.